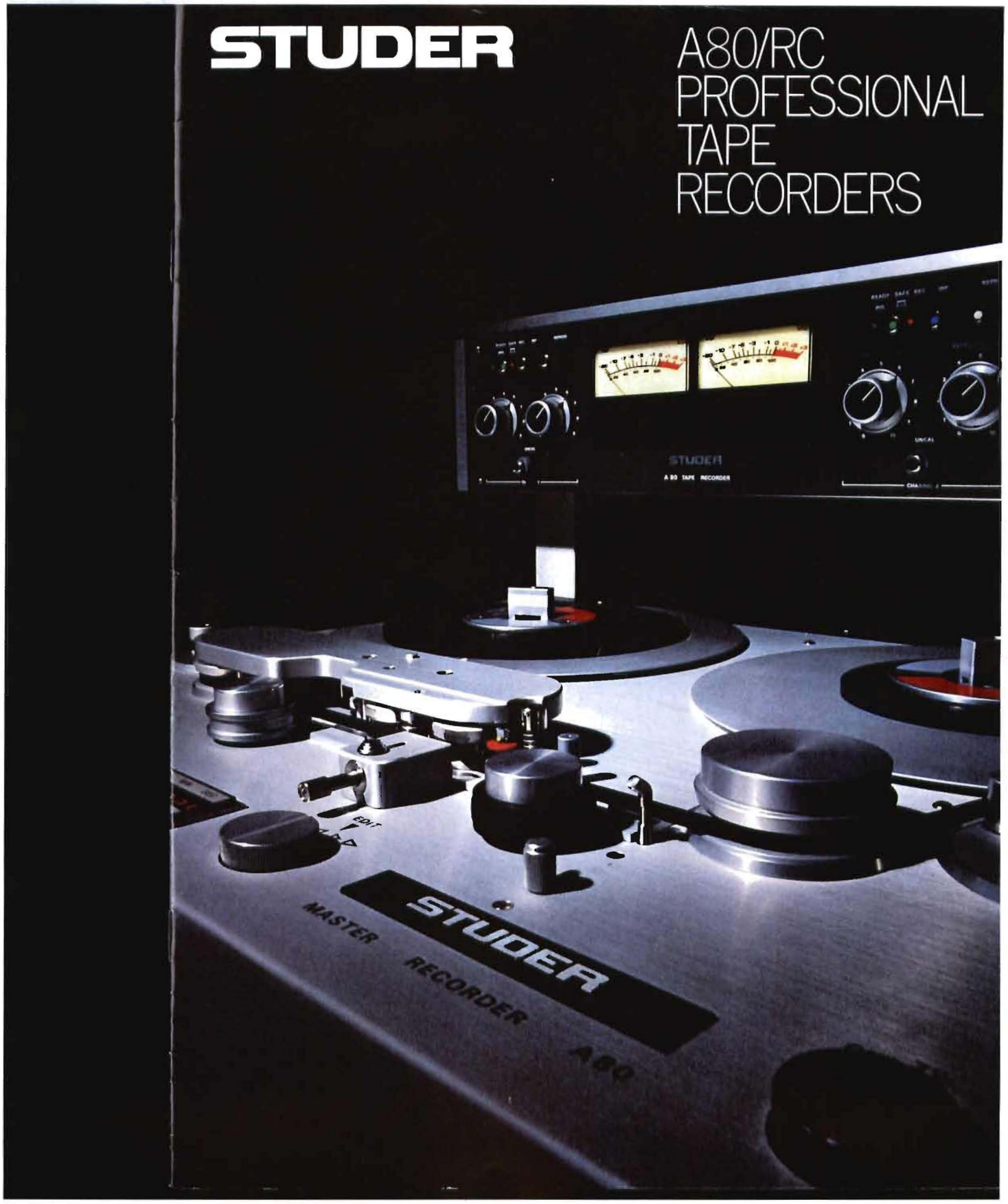
STUDER

A80/RC PROFESSIONAL TAPE RECORDERS

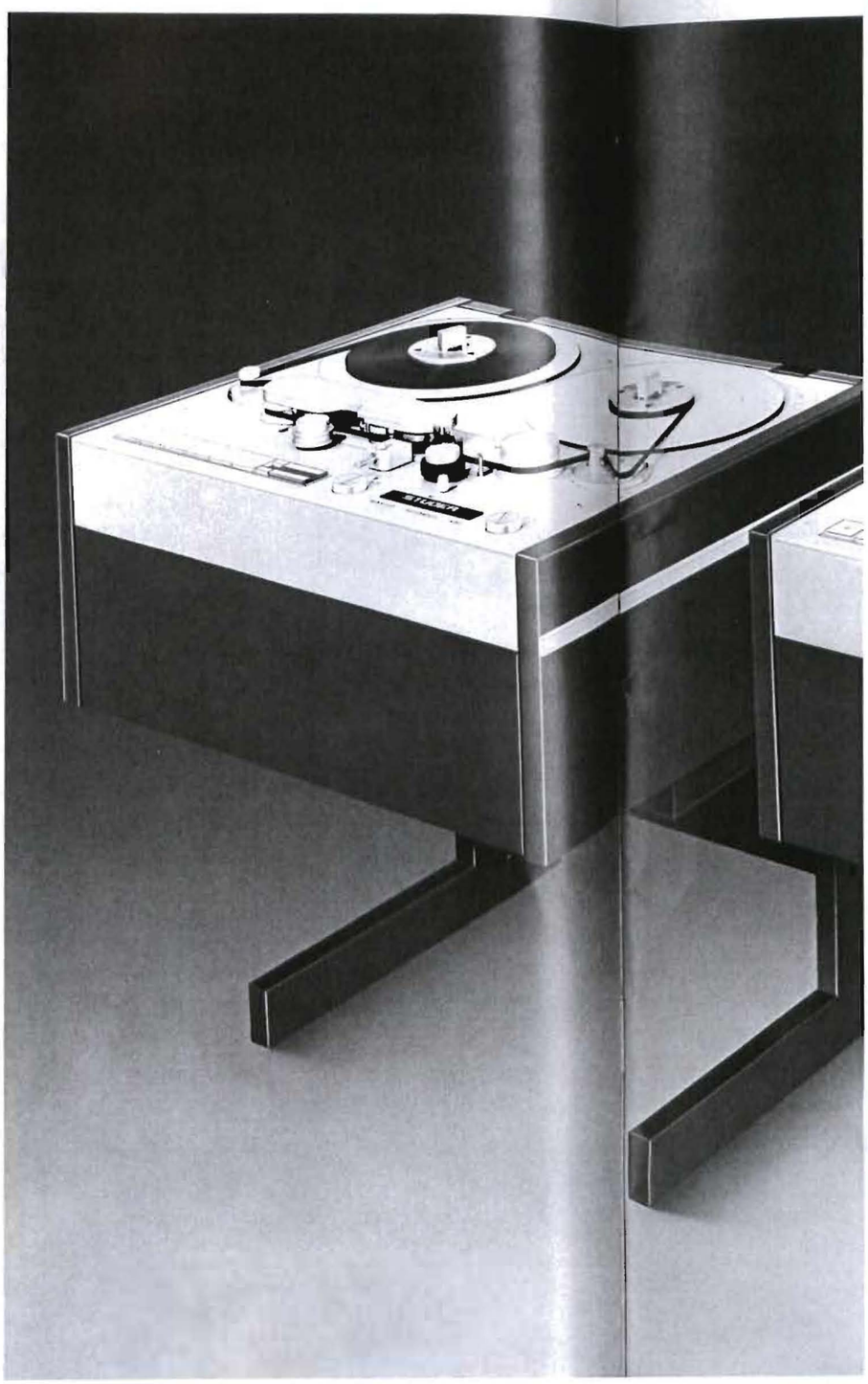


STUDER A80/RC
Professional Tape Recorder

Modern broadcasting, film and recording studios have very exacting standards which can only be met by an uncompromising approach to higher quality (1), better operation and safety, and of course reliability – and this for many years to come.

1

The new STUDER A80/RC has been designed to fulfill all these requirements by successfully combining all the experience gained from the well-known A80-concept. The new model, a further development of the types A80 and A81, is thanks to far-sighted planning not only economic in manufacture but also easy to service.

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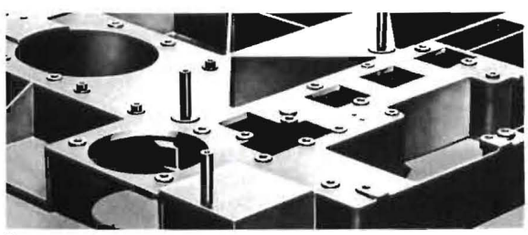
Tape Transport

2

A high quality aluminium die-cast chassis (3) provides a rigid base upon which the tape transport sub-assemblies are mounted, i.e. spooling motors, head block, idlers and guides, etc., most of which can be removed from above. The head block which can be easily exchanged, holds the high durable heads that guarantee a long life-time.

The complete machine can be pulled forward (2). In this way, access to the tape transport electronics, consisting of plug-in PC boards and the mechanical sub-assemblies is made easy and down-time is minimized.
The standard A80/RC model contains the following new features:
Modern "PROM" technique
Fully electronic tape timer, including a negative display ZERO LOCATOR

The new Tape Recorder has been designed to the latest technical concepts. It will not only fulfill all of today's studio requirements to it's optimum, but can also be controlled by the micro-process control technology of tomorrow.



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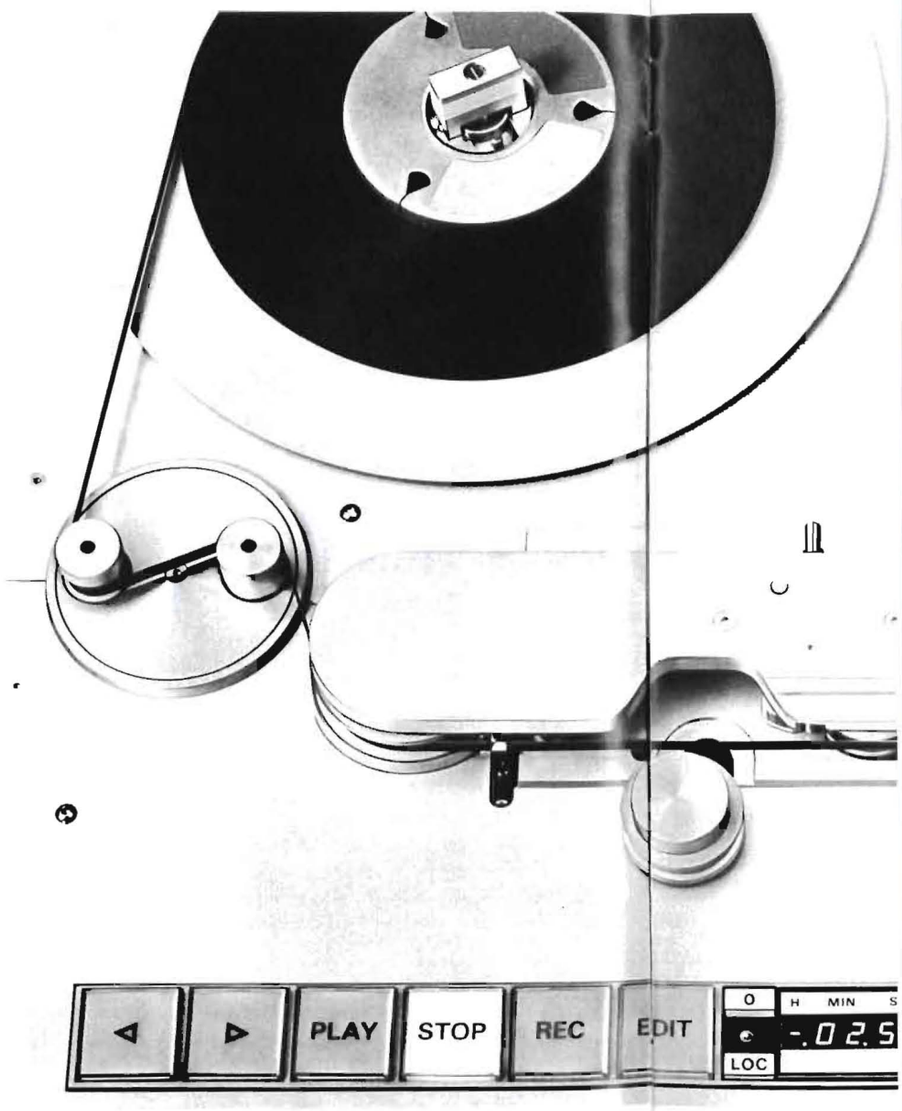

The servo-controlled AC capstan motor provides tape speed stability, independent of mains frequency or voltage fluctuations. Vari-speed is provided as a standard feature, allowing variations of ± 7 semi-tones (the external control components are available as an accessory and should be ordered separately).
Electronically controlled tape tension before and after the capstan motor, coupled with precision tape guides, result in negligible slippage and low wow and flutter.

Tape tension
modes:
Play/Record,

Electronic se
ensuring a sa
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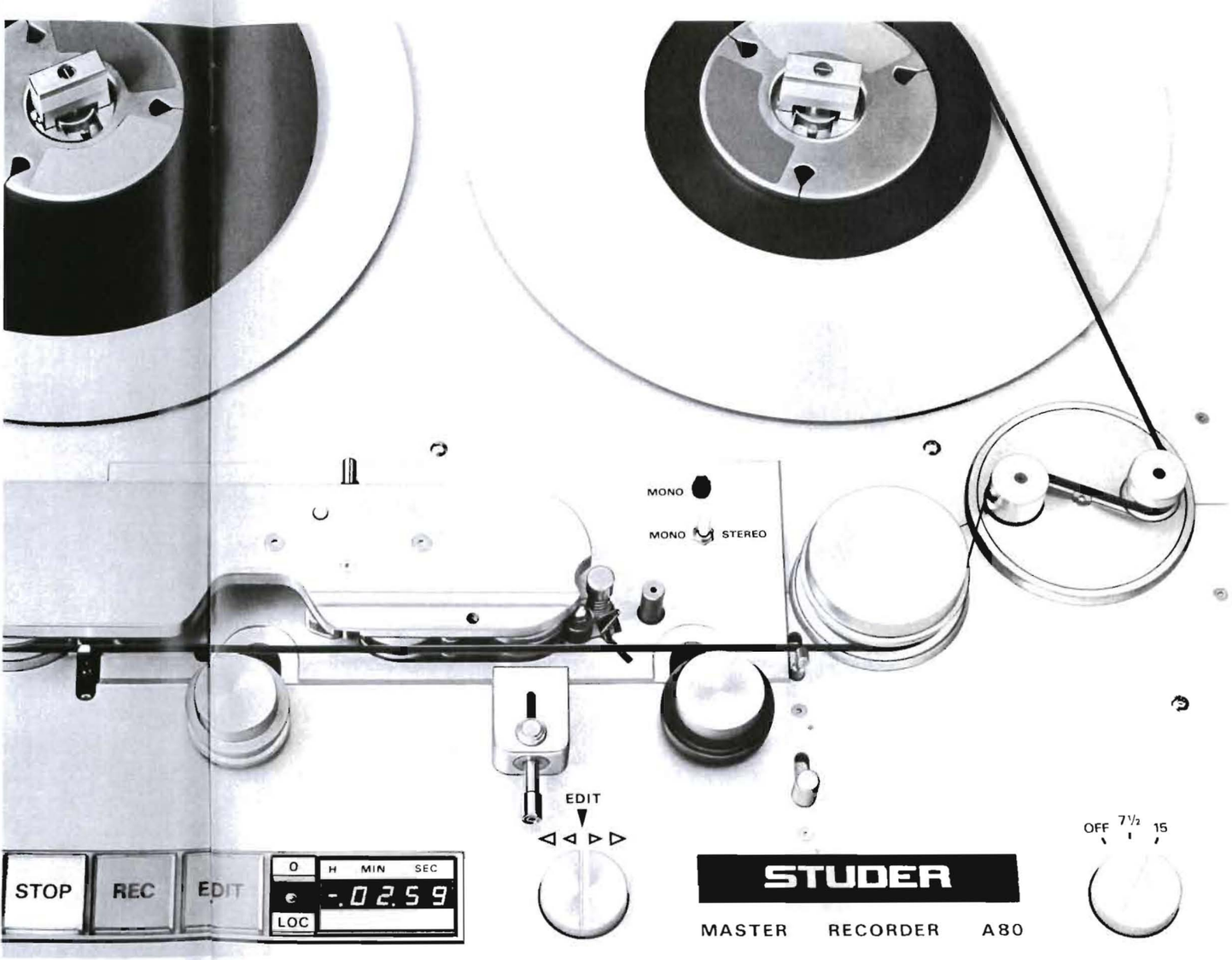
Tape Threade
Tape Tension
Capstan Mot



provides tape
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guides, result
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Tape tension is separately adjustable (4) for the three modes.
Play/Record, Fast Forward/Rewind, Edit

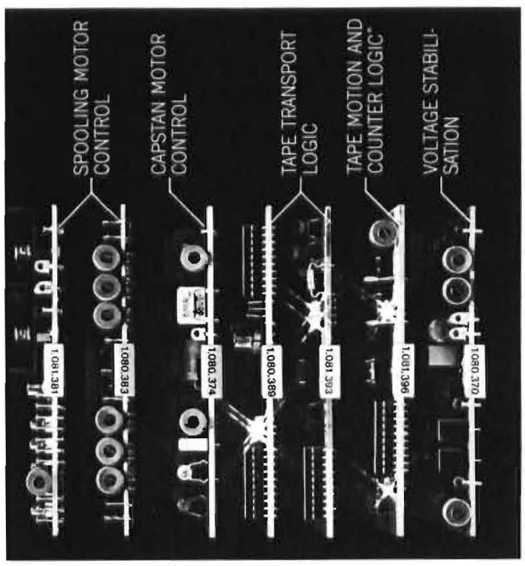
Electronic sensors guarantee gentle handling of the tape, ensuring a safe and accurate tape path, whereby the following criteria are recognised.
Tape Threaded, Tape in Motion, Tape Direction, Tape Tension, Coloured Leader Tape Recognition, Capstan Motor Speed

Electronically controlled spooling motors ensure constant tape tension.

Plug-in adaptors allow quick change of the NAB and DIN spooling centres.

Tape Transport Control

Increased flexibility of the transport logic has been achieved by utilizing "PROMS" These programmable read-only memories contain the programs of all the processes performed in the various phases of operation and can be addressed as required. To make servicing easier the tape transport logic boards contain 11 LEDs which indicate the exact status of the machine throughout all its operating modes.

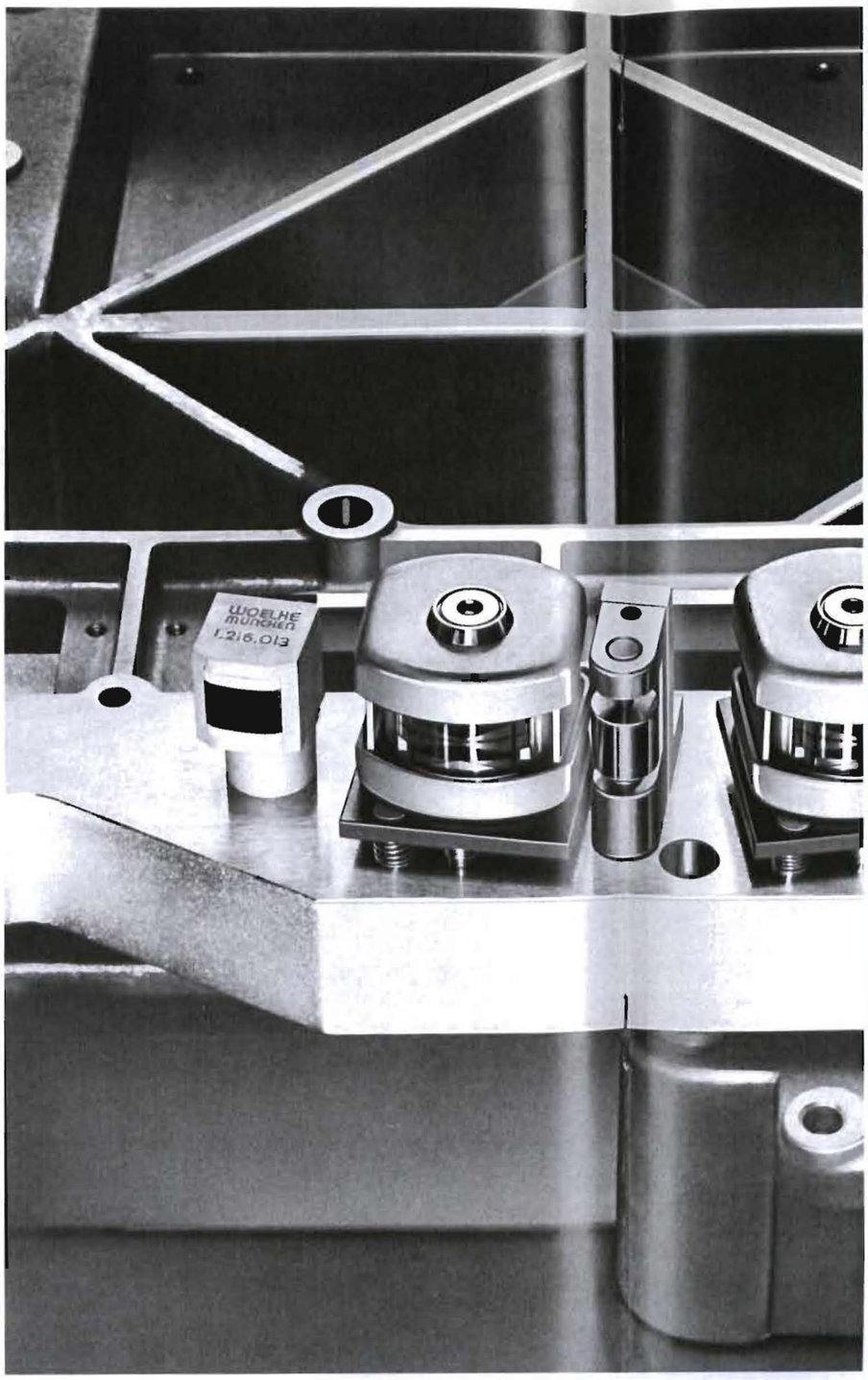


4

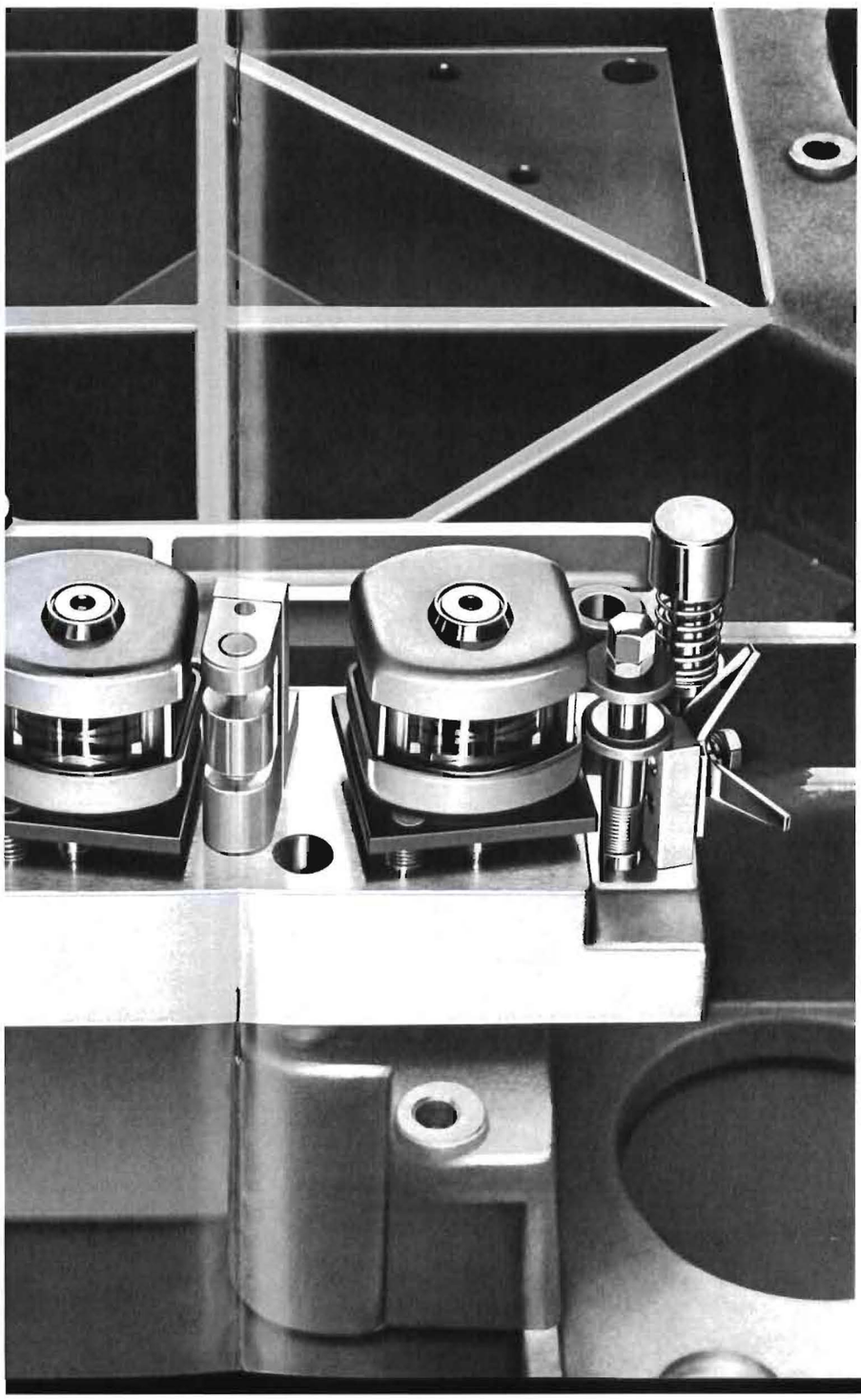
This modern programmable logic has a further advantage, it can be adapted for special requirements and applications. Furthermore, automatic control by means of a computer is possible. The manual functions of fader start or tape dump (bin operation) remain unchanged.

Indicators in the push-button controls, confirm to the operator, the tape transport commands addressed

In this model the entire tape transport electronics (4) which are concentrated on 7 PC boards are accessible from the front, so that adjustments and servicing can be carried out easily.



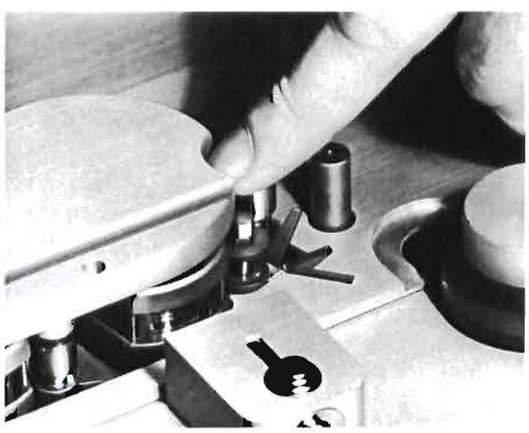
Head Block
Editing



A precisely machined stainless steel casting forms the reference on which the heads are mounted, guaranteeing a tape path of highest accuracy. Between record head and replay head, a scrape flutter roller is fitted. This is replaced by a pilot tone head in pilot tone machines. The head height is precisely adjusted during manufacture. The Azimuth of both record and replay heads can be adjusted from above without removing the head block.

A splicing block, scissors (5), and a tape marker are included as a standard feature.

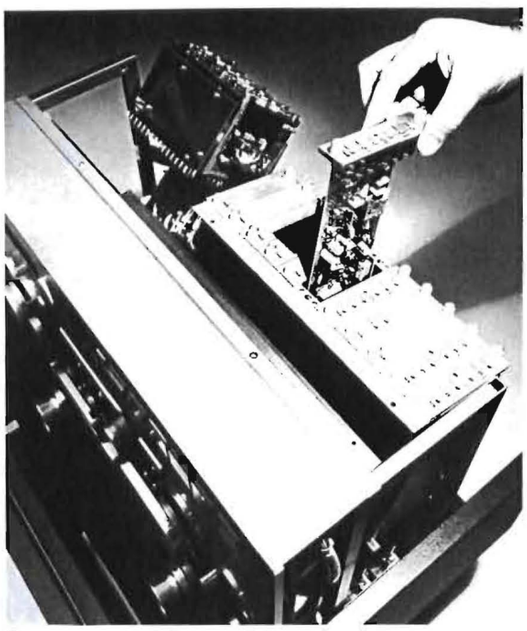
The optical electronic end of tape sensor disenables, via the control logic, tape motion and timer action at the end of tape or when the leader tape is reached. The sensitivity is adjustable for most leader tapes.



5

Editing facilities are provided. Variable spooling control and solenoid blocking of the tape tension sensor to hold the tape still when marking or cutting, permits accurate positioning of the editing point. The built-in tape scissors (5) and splicing block on the head cover enables accurate and fast splicing.

Audio Electronics



6

The audio electronic (6) is housed in the amplifier bay which can accommodate up to 11 modules, such as:
Record and Playback Amplifiers
Oscillator
Stabiliser

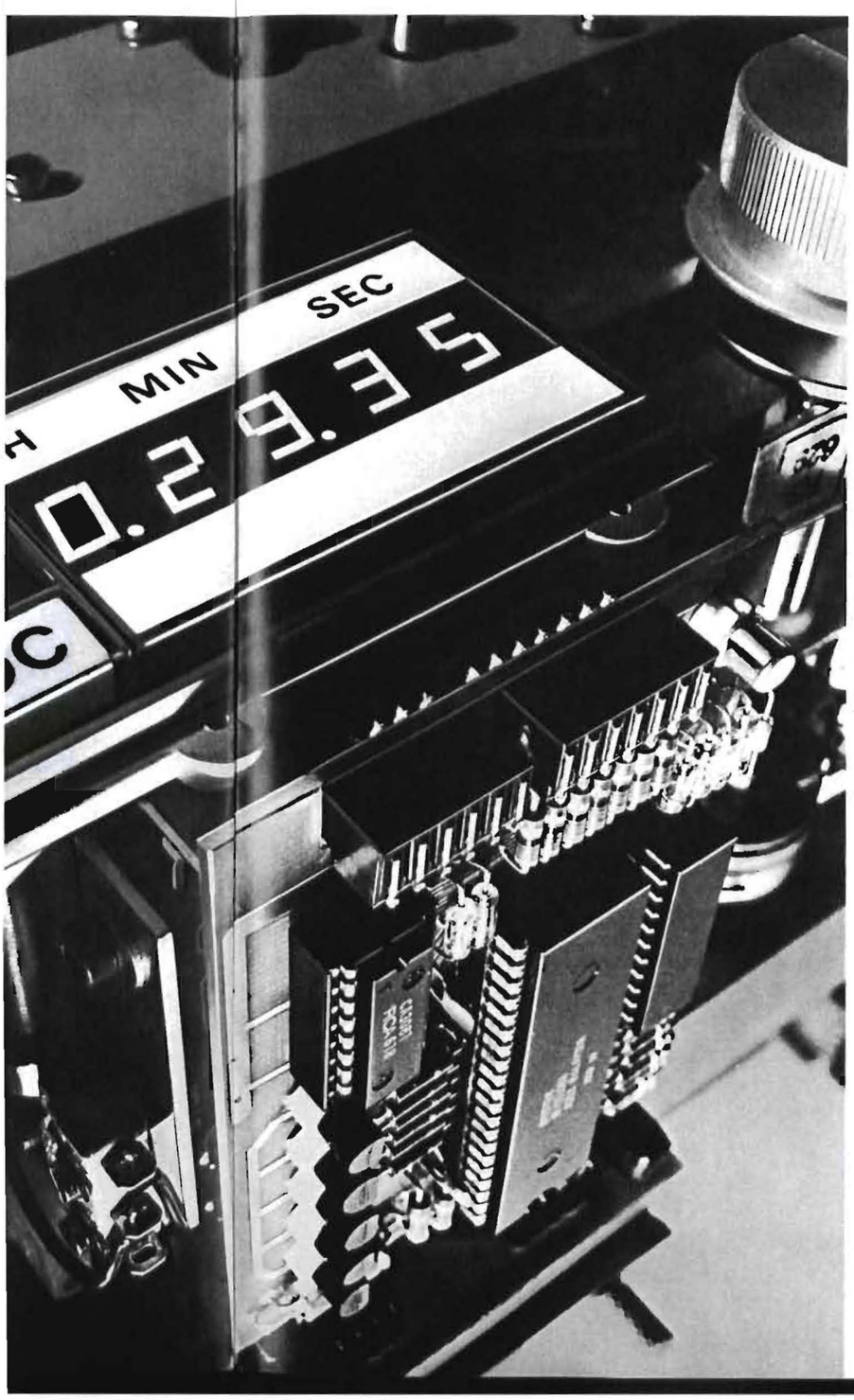
By lowering the front cover ready access to all the controls and test points is achieved without removing the machine from the console.

The versatile audio electronic may be fitted with NAB and CCIR plug-in equaliser prints, according to customer requirements.

The audio electronics offer flexibility for different formats and are pre-wired for the following:
Pilot tone amplifier
Pilot tone resolver
Modulation control

Connections are provided at the rear for:
Remote control
Capstan Speed control
Extended Mode control

Tape Timer



The electronic tape timer (7) has the following features:
The counting of real time at both speeds is by means of a six-digit register, in hours - minutes - seconds

Five-digits are displayed by 7-segment read-out. The display can be altered as follows, by moving the jumper:

Mathematical display sequence: 0.00.01/0.00.0/ -.00.01
With negative times the hour digit changes to a minus sign.

Complementary display sequence: 0.00.01/0.00.00/ 9.59.59
Negative times are displayed by the complement.

A maximum of 3 timers can be connected to one machine, i.e. 1 local, 2 remote.

The ZERO LOCATOR which is a standard feature, permits a quick and precise return to zero from any position on tape.

Versions of the STUDER A80/RC

A80/RC-1
full track (mono)

A80/RC-1 VU
full track (mono) but with VU-meter panel above tape deck

A80/RC-0.75
stereo, 0.75 mm track separation, full track erase head

A80/RC-0.75 VU
stereo, 0,75 mm track separation, full track erase head but with VU-meter panel above tape deck

A80/RC-0.75 S
stereo, 0.75 mm track separation, full track erase head, switchable to mono operation

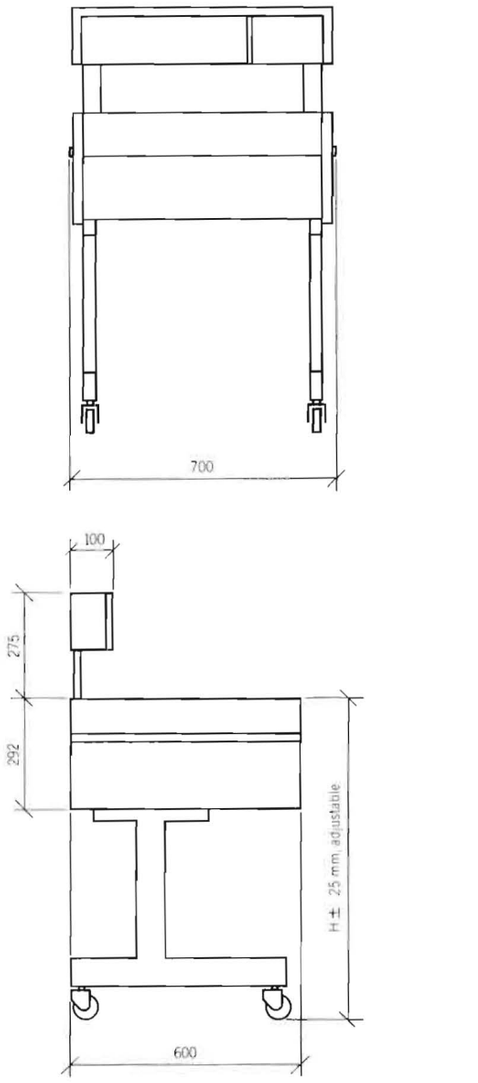
A80/RC-0.75 S VU
stereo, 0.75 mm track separation, full track erase head, switchable to mono operation but with VU-meter panel above tape deck

A80/RC-2/2
two-track, 2 mm track separation, separate erase facility of track 1 or 2, with track selection switch (overlapping track erasure)

A80/RC-2/2 VU
two-track, 2 mm track separation, separate erase facility of track 1 or 2, with track selection switch (overlapping track erasure) but with VU-meter panel above tape deck

Monitor Loudspeaker Module
Comprising track selector (track 1, track 2, tracks 1 + 2). Volume control and headphone jack. Mounted into VU-meter housing, reel shelf above tape deck or rear cover of tape transport

Vari-Speed Control Panel
Control panel for variable capstan speed with counter. Mounted into VU-meter housing or reel shelf above tape deck



H = 780 mm, permanent installation
H = 840 mm, with casters
H = 900 mm, permanent installation
H = 960 mm, with casters

Tape speed:
Reels:
Tape slip:
Flutter and wow:
(measured with EMT 420)
Starting time:
Tape timer:

Tape transfer time:
Stopping time from fast
Tape tension:▲
Max. tape tension:▲
Line inputs:
Input level:
Line outputs:

Output level:
Equalization:
Frequency response
record-reproduce:

CCIR EQUALIZATION
Signal-to-noise ratio rec
(measured with AGFA PER
full track (320 nWb/m)

stereo, track width 2.75 mr

two-track, track width 2 mr

Distortion at 1 kHz

NAB EQUALIZATION
Signal-to-noise ratio rec
(measured with 3M 206, u
referring to 6 dB above op
full track:
stereo, track width 2.75 mr
two-track, track width 2 mr
Distortion at 1 kHz (opera

Signal-to-noise ratio rec
(measured with high outpu
1040 nWb/m, distortion m
full track:
stereo, track width 2.75 mr
two-track, track width 2 mr
Crosstalk rejection, ster
Erasure efficiency:
Bias frequency:
Erase frequency:
Power supply:

Counting range of electr

▲ Adjustable with potenti
* Operating level (tape fl

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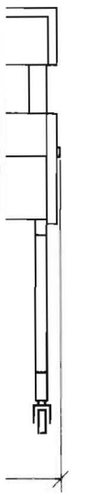
P)FESSIONAL TAPE RECORDER



780 mm, permanent installa
840 mm, with casters
900 mm, permanent installa
960 mm, with casters

Tape speed:		38.1 cm/s (15 ips) and 19.05 cm/s (7.5 ips) ±0.2% (adjustable)		
Reels:		DIN, NAB and cine, max. 30 cm dia		
Tape slip:		max. deviation 0.1%		
Flutter and wow: (measured with EMT 420) to DIN 45507, peak weighted.		**30 ips** (76.2 cm/s) max. 0.04%	**15 ips** (38.1 cm/s) max. 0.04%	**7.5 ips** (19.05 cm/s) max. 0.06%
Starting time:		max. 0.5 sec (for 0.1% flutter, weighted)		
Tape timer:		Accuracy ±0.2%. Real time indicated in hours, minutes and seconds for 30, 15 and 7.5 ips		
Tape transfer time:		approx. 120 sec for 1000 m tape		
Stopping time from fastwind mode:▲		max. 3 sec		
Tape tension:▲		70 ... 100 p on reproduce and fastwind		
Max. tape tension:▲		500 p on start, stop and reversal		
Line inputs: Input		balanced and floating; impedance 8 kohms min. 0 dBm, max. +22 dBm		
Line outputs: Output		balanced and floating; impedance 30 ohms max (minimum load impedance 200 ohms) max. +24 dBm		
Equalization:		CCIR or NAB, plugged as required		
Frequency response reproduce		**30 ips** 50 Hz ... 20 kHz ±2 dB 60 Hz ... 18 kHz ±1 dB	**15 ips** 30 Hz ... 18 kHz ±2 dB 60 Hz ... 15 kHz ±1 dB	**7.5 ips** 30 Hz ... 15 kHz ±2 dB 60 Hz ... 12 kHz ±1 dB
CCIR EQUALIZATION			**15 ips**	**7.5 ips**
Signal-to-noise ratio record-reproduce (RMS): (measured with AGFA PER 525 or equivalent)				
full track (320 nWb/m)	weighted:		61 dB	58 dB
	unweighted:		61 dB	58 dB
stereo track width 2.75 mm (510 nWb/m)	weighted:		61 dB	58 dB
	unweighted:		61 dB	58 dB
two track width 2 mm (320 nWb/m)	weighted:		56 dB	54 dB
	unweighted:		56 dB	54 dB
Distortion at 1 kHz	tape flux 320 nWb/m:		max. 1%	max. 1%
	tape flux 510 nWb/m:		max. 2%	max. 3%
NAB EQUALIZATION		**30 ips**	**15 ips**	**7.5 ips**
Signal-to-noise ratio record-reproduce (RMS): (measured with 3M 206, unweighted, referring to 6 dB above operating level*)				
full track:		67 dB	65 dB	65 dB
stereo track width 2.75 mm:		64 dB	62 dB	62 dB
two track width 2 mm:		63 dB	61 dB	61 dB
Distortion at 1 kHz (operating level*)		max. 1%	max. 1%	max. 1%
Signal-to-noise ratio record-reproduce (RMS): (measured with high output tape, unweighted, referring to tape flux 1041 nWb/m, distortion max. 3% at medium frequencies)				
full track:		76 dB	75 dB	74 dB
stereo track width 2.75 mm:		73 dB	71 dB	71 dB
two track width 2 mm:		72 dB	70 dB	70 dB
Crosstalk rejection, stereo:		min. 40 dB, 60 Hz ... 12 kHz		
Erasure efficiency:		min. 75 dB at 1 kHz		
Bias frequency:		150 kHz		
Erase frequency:		150 kHz		
Power supply:		100 V ... 120 V or 200 V ... 240 V ±10% 50 Hz ... 60 Hz, 320 VA		
Counting range of electronic timer:		–59 59 to 9 59 59 or (–) 9 59 59 to 9 59 59		

▲ adjustable with potentiometers
* operating level (tape flux 185 nWb/m)

We reserve the right to make alterations as technical progress may warrant.

Designed and Manufactured
in Switzerland

Worldwide Distribution:

STUDER INTERNATIONAL AG
Professional Audio Equipment
CH-8105 Regensdorf, Switzerland
Althardstrasse 150
Phone 01 840 29 60
Telex 58489 stui ch

STUDER REVOX AMERICA INC.
Nashville, Tennessee 37203/USA
1819 Broadway
Phone (615) 329-9576
Telex 55-4453

New York Office
155 Avenues of the Americas
New York, N.Y. 10013
Phone (212) 255-4462

California Office
14046 Burbank Blvd.
Van Nuys, California 91401
Phone (213) 780-4234

STUDER REVOX CANADA LTD.
Toronto M4H 1E9, Ontario/Canada
14, Banigan Drive
Phone (416) 423-2831
Telex 06-23310

STUDER FRANCE
F-75015 Paris
12-14, rue Desnouettes
Téléphone 533 58 58/533 58 59
Télex 24744 F audifra

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